

Remarks

The following is a response to the Office Action dated March 10, 2004.

Affirmation is hereby given to the examiner for the withdrawal of claims 11-14 from this application, per a verbal provisional election made on March 8, 2004.

Claims 1-10 were rejected under 35 U.S.C. 102(b) as being anticipated by each of the following: Leslie et al. (US 4,529,401); Langer et al. (US 4,812,724); and Sanderson et al. (US 5,176,502).

Per the above amendment, the pending claims now make it clear that the pump detects an obstruction to movement of the plunger head by monitoring changes in rotational speed of the motor and that it stops operation of the motor in response to this detected fall in speed. None of the cited documents describes arrangements that operate in this way. Indeed, the references cited and relied by the examiner only disclose the control of the operation and/or the speed of a motor by an encoder.

To wit, Leslie (US 4,529,401) describes a pump having a leadscrew driving a motor. An encoder is used to control operation of the motor. The pump generates an audio alarm signal in response to various alarm conditions set out in Table 4 in column 11. There is, however, no mention that an alarm be provided in response to an obstruction to movement of the plunger head (such as caused by an occlusion in the catheter through which medication is supplied), in the manner required by the claims of the present application. More particularly, there is no suggestion that the motor be stopped in response to a fall in its speed, as required by the claims.

Langer (US 4,812,724) also describes a pump with an encoder but again there is no suggestion of how an occlusion be detected and, more particularly, there is no suggestion that the motor be stopped when its detected speed falls, as in the present invention.

Sanderson (US 5,176,502) describes a pump with a motor and an encoder but this is used for speed control purposes. The specification makes it clear (column 9, lines 3 to 18) that supply of power to the motor is terminated in response to an increase in current to the motor above a threshold value. It is this that stops the motor, not detection of a fall in its speed, as required by the amended claims of the present application.

In light of the above, it is clear that the instant invention of stopping a drive to a pump motor in response to an obstruction detected by monitoring the change in the rotational speed of the motor is not taught, or suggested, in the prior art.

Accordingly, the examiner is respectfully requested to reconsider this application and pass the same to issue at an early date.

Respectfully submitted,



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